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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,267	09/26/2001	Haruo Hyodo	10417-101001	8383

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EXAMINER

SOWARD, IDA M

ART UNIT PAPER NUMBER

2822

DATE MAILED: 04/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/963,267

Applicant(s)

HYODO ET AL.

Examiner

Ida M Soward

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

This Office Action is in response to Applicants' amendment filed March 26, 2003.

### ***Response to Amendment***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art Figures 9A-9B in view of Ozimek et al. (5,382,310), Toshiba KK [Toke] (JP07225391A) and Sasano (US 6,313,525 B1).

Admitted Prior Art Figures 9A-9B teach a semiconductor device comprising: a supporting substrate 1 made of insulating material; three conductive patterns provided

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on a surface of the supporting substrate; an external connecting terminal **2** electrically connected to the conductive patterns; a semiconductor circuit element **5**; and a ceramic plate **3** that covers the circuit element and that forms a hollow airtight portion **7** between the supporting substrate and the ceramic plate. However, Admitted Prior Art Figures 9A-9B fail to teach a glass plate, an external connecting terminal provided on a back surface of the supporting substrate, and a light-shielding adhesive resin applied over an entire surface of the glass plate. Ozimek et al. teach an adhesive **26** applied over an entire surface of the glass plate **28** (Figure 1, col. 3, lines 9-31). Toshiba KK [Toke] teaches a light-shielding adhesive resin. Sasano teaches a glass plate **9** with an adhesive resin **10** applied over a surface of the glass plate and an external connecting terminal **6** provided on a back surface of the supporting substrate (Figure 1, column 6, lines 6-10). Since Admitted Prior Art Figures 9A-9B, Ozimek et al., Toshiba KK [Toke] and Sasano are from the same field of endeavor (semiconductor devices), the purpose disclosed by Sasano would have been recognized in the pertinent art of Admitted Prior Art Figures 9A-9B, Ozimek et al. and Toshiba KK [Toke]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Admitted Prior Art Figures 9A-9B by incorporating the adhesive of Ozimek et al., the light-shielding adhesive resin of Toshiba KK [Toke] and the glass plate, adhesive resin and external connection of Sasano to maintain air tightness (col. 3, lines 12-21).

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Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art Figures 9A-9B, Ozimek et al. (5,382,310) and Sasano (US 6,313,525 B1) as applied to claim 1 above, and further in view of Toshiba KK [Toke] (JP07225391A).

Prior Art Figures 9A-9B, Ozimek et al. and Sasano teach all mentioned in the rejection above. Prior Art Figures 9A-9B further teach an insulating substrate **1** (Figure 1). Sasano further teach a wall surrounding the circuit member **7-8**, wherein the transparent plate **9** adhered on the wall over the circuit member **7-8** to form an airtight cavity between the substrate **1** and the transparent plate **9** (Figure 1) and a semiconductor chip **7** disposed over the conductive pattern which is disposed over the substrate. However, Prior Art Figures 9A-9B, Ozimek et al., Toshiba KK [Toke] and Sasano fail to teach a fuse element. Hyoudo et al. teach a fuse element (Figure 3A, col. 4, lines 35-48). Hyoudo et al. further teach a external connectors **33 & 34** provide on the back of the substrate **21** and electrically connected to the circuit through the substrate by via holes **35** (Figure 2A, cols. 2-4, lines 45-67, 1-67 and 1-16, respectively). Since Admitted Prior Art Figures 9A-9B, Ozimek et al., Toshiba KK [Toke], Sasano and Hyoudo et al. are from the same field of endeavor (semiconductor devices), the purpose disclosed by Hyoudo et al. would have been recognized in the pertinent art of Admitted Prior Art Figures 9A-9B, Ozimek et al., Toshiba KK [Toke] and Sasano. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Admitted Prior Art Figures 9A-9B, the adhesive of Ozimek et al., the light-shielding adhesive resin of Toshiba KK [Toke] and the glass plate, adhesive resin and external connection of

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Sasano by incorporating the fuse element of Hyoudo et al. to provide a overcurrent protection element (col. 1, lines 46-50).

### ***Response to Arguments***

Applicant's arguments filed 3-26-03 have been fully considered but they are not persuasive.

since Ozimek et al., Sasano, Toshiba KK [Toke] and Hyoudo et al. are from the same field of endeavor (semiconductor devices), the purpose disclosed by Sasano (col. 3, lines 12-21) and Hyoudo et al. (col. 1, lines 46-50) a would have been recognized in the pertinent art combinations in the rejections of claims (1 and 3) and (8-11).

Therefore, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Also, Sasano discloses a lead terminal 6 provided on the back of the substrate 1 and Hyoudo et al. disclose a external connectors 33 & 34 provide on the back of the substrate 21 and electrically connected to the circuit through the substrate.

### ***Conclusion***

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respects to semiconductor devices having a transparent plate mounted with an adhesive:

Fukamura et al. (6,121,675)

Hodges (5,590,787)

Tanaka et al. (4,663,833)

Tanaka et al. (5,327,443).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M Soward whose telephone number is 703-305-3308. The examiner can normally be reached on Monday - Thursday, 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ims  
April 10, 2003

  
AMIR ZARABIAN  
SUPERVISORY PATENT EXAMINER  
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